

Remarks

The application has been reviewed in light of the Official Action mailed October 4, 2006. Claims 1-21 are cancelled. Claims 22-24, 26, and 29 are amended. Claims 22-30 are pending in the application.

No new matter is introduced by the amendments. Paragraphs [0077] and [0078] have been amended to associate the positioning device described in these paragraphs with Figure 4. The amendments to the claims correspond to the Examiner's objections as to informalities and Fig. 2.

The Examiner objected to the drawings under 37 CFR 1.83(a) for failing to show "the rotation of at least one of the imagers about an axis transverse to an image recording surface" and the positioning device as claimed in claim 28. Applicants submit with this Response replacement sheets to Figs. 2 and 4. Fig. 2 depicts endoscope 12 with an axis of rotation. Fig. 4 depicts an imaging device 160 that tracks operating instrument 148 and endoscope 100.

The Examiner objected to informalities present in claims 22-30. Claims 22-30 have been amended in accordance with the Examiner's objections.

The Examiner rejected claim 26 under 35 U.S.C. 112 for the written description not supporting the rotation of one imager with respect to the other. Applicants have amended claim 26 to require both first and second imagers to be rotated about an axis transverse to the image recording surface of said imagers.

The Examiner rejected claims 22-30 under 35 U.S.C. 103(a) as being unpatentable over Miyazaki US 5,989,185 (the "185 Patent") in view of Miyazaki et al. US 4,873,572 (the "572 Patent"). Applicants respectfully request that the Examiner reconsider this rejection in view of the fact that all claims require a first imager with first connecting pads and a second imager with second connecting pads, "wherein said first and second con-

necting pads are connected in a mirror-image fashion relative to one another and direct mutual contact is made between the first and second connecting pads.”

Both the '572 Patent and the '185 Patent disclose different embodiments of an electronic endoscope imaging apparatuses. The '572 Patent notes that when “two independent solid state imaging devices are provided in the tip part of the insertable part, the outside diameter of the tip part will become large.” (col. 1 l. 58-61). As a result, the object of the '572 Patent is to “provide an electronic endoscope whereby a plurality of object images can be imaged without enlarging the diameter of the insertable part...” (col. 1-2, l. 66-2). In furtherance of this objective, the '572 Patent discloses different embodiments with either 1 CCD (Fig. 1, 20) or 2 CCDs (Figs. 10, 15, 16, 17, 18, and 22). In the context of an imager with 2 CCDs, the '572 Patent shows that these CCDs are mounted to a package and isolated from one another. (col. 12 l. 12-16). When 2 CCDs are utilized, they are either mounted on opposite faces, on independent packages at an angle, or on a common face. All of these embodiments have the objective of minimizing the overall diameter of the device. However, none of the embodiments are directed towards embodiments that simplify the connections made between CCDs. Fig. 13 shows a complex contact structure in which each CCD has leads that are uniquely associated the respective CCD and are “pulled out in the same direction.” (col. 13 l. 1-3). The '572 Patent discloses that both CCDs have a common drive signal. (col. 13 l. 7-9). However, an inspection of Fig. 13 shows that this common drive signal is not obtain by the leads of the CCD having direct mutual contact. The '185 Patent discloses an electronic imaging device similar to the '572 Patent, however only discloses embodiments that utilize 1 CCD.

Since the '572 Patent only discloses embodiments of electronic imaging devices with 2 CCDs each with leads independently pulled out, Applicant agrees with the Examiner that the '572 Patent does not anticipate the claimed invention. Also, since the '185 Patent only discloses embodiments that utilize 1 CCD, it also does not anticipate the claimed invention. Applicant respectfully submits that neither reference discloses a first imager with first connecting pads and a second imager with second connecting pads, “wherein said first and

second connecting pads are connected in a mirror-image fashion relative to one another and direct mutual contact is made between the first and second connecting pads," neither reference anticipates the claimed invention.

Further, Applicants respectfully submit that there is no motivation to modify or combine the references in accordance with the claimed invention. It is well settled that the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990). One benefit of having "first and second connecting pads ... connected in a mirror-image fashion relative to one another and direct mutual contact is made between the first and second connecting pads," is that this can simplify the contacts made with the imagers, simplifying the overall device. Such a benefit is not recognized by either reference. The '185 patent only discloses single CCD embodiments. The '572 patent discloses both single CCD and dual CCD embodiments. The '572 patent only discloses that a dual CCD has independent leads that are pulled out of both devices. It does not disclose that these leads are in direct mutual contact. Thus, one skilled in the art viewing either reference would not be motivated to modify the two CCD embodiments of the '572 patent such that there is direct mutual contact between connecting pads.

The Examiner suggests that there is a motivation to apply the two CCDs of the '572 patent to the '185 patent. The suggested motivation is to avoid total video black-out. However, such motivation does not necessitate direct mutual contact between connecting pads. Applying the dual CCDs disclosed in the '572 patent without further modification would be sufficient to achieve the Examiner's proposed motivation to combine. If there was a failure of one CCD in the '572 patent without direct mutual contact, the other CCD would still operate because each CCD has independent leads. As a result, one skilled in the art would not find the additional motivation to further modify the CCDs in the '572 patent to include direct mutual contact between connecting pads. This lack of motivation to make such a modification is exemplified by the fact that the '572 patent discloses both

single CCD embodiments and dual CCD embodiments and yet did not have the inspiration to also disclose direct mutual contact between connecting pads.

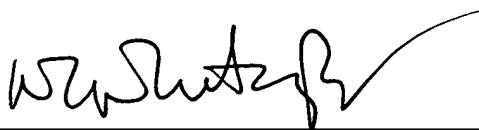
Since these references do not disclose embodiments with direct mutual contact between connecting pads, the combination of these references would still lack this aspect of the claimed invention. Applicant believes that one skilled in the art would merely substitute the CCDs of the '572 patent for the CCD of the '185 patent, or vice versa. But, again, such combination does not lead to direct mutual contact between connecting pads.

Based on the foregoing, Applicant respectfully submits that neither reference on its own or in combination with each other renders the claimed invention requiring "first and second connecting pads ... connected in a mirror-image fashion relative to one another and direct mutual contact is made between the first and second connecting pads," obvious.

In view of the foregoing amendments and remarks, it is respectfully submitted that all of the claims currently pending in the application are now in condition for allowance. Reconsideration and notice to that effect is earnestly requested.

Respectfully submitted,

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